

Date: Monday, 13/04/2009 8:22:18 AM
 User: Julie Dawson

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : 02.750 SUPPORT
Job Number : 47109	
Estimate Number : 10829	
P.O. Number :	Part Number : D28931
This Issue : 13/04/2009 S.O. No. :	Drawing Number : D2893 REV B
Prsht Rev. : NC	Project Number : N/A
First Issue : // Type : MACHINED PARTS	Drawing Revision : B
Previous Run : 46488	Material :
Written By :	Due Date : 20/04/2009 Qty: 20 Um: Each
Checked & Approved By : <u>JUD 09.04.03</u>	
Comment : Est: C 02.11.26 Reformat; Added P/O KJ est D 06.04.19 removed alodine EC Est Rev:E Added priming as per Rev B 07-04-30 JLM est F 08.03.19 Re-format EC verified by: DD Est Rev:G 08-05-15 add QC14 DD verified by:EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0	DSK078	D2893-1 TURNING DETAIL
-----	--------	------------------------



Comment: Qty.: 0.5000 Each(s)/Unit Total : 10.0000 Each(s)

D2893-1 TURNING DETAIL

Batch: B46924

ma F 09/04/22

2.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
-----	-------	--------------------------------



Comment: HAAS 1

Machine as per Folio FA081

Tumble & Deburr

ma F 09/04/22 / JL

PTO →

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT ALL DIM TO DIM SHEET

ma 09/04/22 / JL

4.0	QC8	SECOND CHECK
-----	-----	--------------



Comment: SECOND CHECK

SA 09/04/22

(18)

5.0	POWDER COATING	POWDER COATING
-----	----------------	----------------



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

Mask Inside Bore for Priming

START TIME:

15:40

ma F 09/04/22

09/04/22

(15)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D2893-1 PAR #: N/A Fault Category: Prod / Machined Parts NCR: (Yes) No DQA: D Date: 09/05/14
 Resolution: Process revised Disposition: Scrap QA: N/C Closed Date: 09/05/14

NCR: 47109		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
09.04.22	2	WIDTH OF TABS IS 0.060" NARROW (nom 0.450). WIDTH OF VERT RISE IS 0.114 AT EDGE REMOVED (DWG: 0.125-0.160), (HYC1)	UP 09.04.22 PC- QSI 042	Acceptable. BASE OF RISE IS TO DWG. SCRAP. THICKNESS OF BASE IS 0.130. CHIP IN MAT'L NEAR TABS			UP 09.04.22 PC- QSI 042	
09.04.22	2	Qty(2) THICKNESS OF BASE TOO THIN NEAR TABS (0.130"). VISIBLE TRANSITION. ORIGIN ADJUSTED TO SOLVE PROBLEM	HA 09.04.27	SCRAP PARTS. 09.04.23.	mmf 09/04/25	S 09/04/27	HA 09.04.27	S 09/04/27
		P.C. operator setup with wrong origin						

NOTE: Date & initial all entries

Date: Monday, 13/04/2009 8:22:18 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 02.750 SUPPORT

Job Number: 47109

Part Number: D28931

Job Number:



Seq. #:

Machine Or Operation:

Description :

OVEN TEMPERATURE: 400°
FINISH TIME: 16:10

und BL

09/04/28

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

FX 09/04/29

(18)

7.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

Prime inside surface as per Dwg D2893 and QSI 005 4.3.

ml 09 05 12

(18)

8.0

QC14

INSPECT SPRAY PAINT



Comment: INSPECT SPRAY PAINT

18 09.05.12

(18)

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: X-tube Assy

ml 09 05 13

(18)

10.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/05/13

Job Completion



MF 09-05-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 47109
Description: Ø2.750 Support		Part Number: D2893-1
Inspection Dwg: D2893	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article ☐ Prototype

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	5
HAAS Section								
AA	2.985	3.005		2.995	2.992		2.993	2.994
AB	0.440	0.460		.448	.440		.440	.440
AC	0.125	0.160		.125	.132		.140	.145
AD	0.040	0.060		.050	.050		.050	.050
AE	0.188	0.193		.189	.189		.189	.189
AF	0.125	0.160		.145	.142		.140	.145
AG	0.140	0.160		.151	.155		.158	.149
AH	1.360	1.400		1.380	1.369		1.365	1.370
AI	0.040	0.060		.050	.050		.051	.052
AJ	1.190	1.230		1.217	1.224		1.210	1.214
AK	0.010	0.020		.010	.015		.015	.015
AL	0.053	0.073		.063	.063		.063	.063
AM	0.240	0.260		.250	.250		.250	.250
AN	2.518	2.538		2.521	2.529		2.530	2.527
AO	84.39	90.39		87.39	87.39		87.39	87.39
AP	0.261	0.266		.260	.260		.260	.260
AQ	0.053	0.073		.063	.063		.063	.063
AR								
AS								
AT								
Accept/Reject								

Measured by: mjk 03/04/22 Date:

Audited by: SA Date: 05/04/22

Prototype Approval: Date:

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 47109
Description: Ø2.750 Support		Part Number: D2893-1
Inspection Dwg: D2893	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article
 ☐ Prototype

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	16	17	18	19	110
HAAS Section								
AA	2.985	3.005		2.994	2.994	2.994	2.992	2.992
AB	0.440	0.460		.440	.440	.440	.440	.440
AC	0.125	0.160		.145	.145	.146	.145	.146
AD	0.040	0.060		.050	.050	.050	.050	.050
AE	0.188	0.193		.189	.189	.189	.189	.189
AF	0.125	0.160		.144	.143	.143	.145	.143
AG	0.140	0.160		.149	.150	.150	.150	.152
AH	1.360	1.400		1.369	1.365	1.367	1.367	1.364
AI	0.040	0.060		.050	.055	.049	.051	.055
AJ	1.190	1.230		1.215	1.213	1.210	1.212	1.214
AK	0.010	0.020		.015	.015	.015	.015	.015
AL	0.053	0.073		.063	.063	.063	.063	.063
AM	0.240	0.260		.250	.250	.250	.250	.250
AN	2.518	2.538		2.525	2.525	2.526	2.529	2.529
AO	84.39	90.39		87.39	87.39	87.39	87.39	87.39
AP	0.261	0.266		.261	.262	.262	.262	.262
AQ	0.053	0.073		.063	.063	.063	.063	.063
AR								
AS								
AT								
Accept/Reject								

Measured by: J.L.
 Date: 09/04/23

Audited by: S.A.
 Date: 09/04/23

Prototype Approval:
 Date:

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 47109
Description: Ø2.750 Support		Part Number: D2893-1
Inspection Dwg: D2893	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article
 ☐ Prototype

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	11	12	13	14	15
HAAS Section								
AA	2.985	3.005		2.995	2.995	2.994	2.993	2.996
AB	0.440	0.460		.440	.440	.440	.440	.440
AC	0.125	0.160		.145	.145	.143	.143	.144
AD	0.040	0.060		.050	.050	.050	.050	.050
AE	0.188	0.193		.189	.189	.189	.189	.189
AF	0.125	0.160		.144	.144	.143	.143	.143
AG	0.140	0.160		.149	.150	.150	.152	.151
AH	1.360	1.400		1.366	1.365	1.368	1.365	1.370
AI	0.040	0.060		.050	.051	.046	.057	.055
AJ	1.190	1.230		1.209	1.209	1.209	1.215	1.216
AK	0.010	0.020		.015	.015	.015	.015	.015
AL	0.053	0.073		.063	.063	.063	.063	.063
AM	0.240	0.260		.250	.250	.250	.250	.250
AN	2.518	2.538		2.525	2.525	2.525	2.525	2.526
AO	84.39	90.39		87.39	87.39	87.39	87.39	87.39
AP	0.261	0.266		.262	.262	.262	.262	.262
AQ	0.053	0.073		.063	.063	.063	.063	.063
AR								
AS								
AT								
Accept/Reject								

Measured by: JL **Date:** 09/04/24

Audited by: SA **Date:** 09/04/24

Prototype Approval: **Date:**

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 47109
Description: Ø2.750 Support		Part Number: D2893-1
Inspection Dwg: D2893	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article
 ☐ Prototype

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	16	17	18	19	20
HAAS Section								
AA	2.985	3.005		2.996	2.992	2.992	2.993	2.995
AB	0.440	0.460		.440	.441	.446	.450	.443
AC	0.125	0.160		.144	.156	.150	.156	.150
AD	0.040	0.060		.050	.050	.050	.050	.050
AE	0.188	0.193		.189	.190	.190	.189	.189
AF	0.125	0.160		.143	.140	.141	.140	.143
AG	0.140	0.160		.150	.150	.152	.152	.151
AH	1.360	1.400		1.371	1.386	1.386	1.384	1.385
AI	0.040	0.060		.050	.050	.050	.050	.050
AJ	1.190	1.230		1.214	1.220	1.216	1.220	1.217
AK	0.010	0.020		.015	.015	.015	.015	.015
AL	0.053	0.073		.063	.063	.063	.063	.063
AM	0.240	0.260		.250	.250	.250	.250	.250
AN	2.518	2.538		2.526	2.530	2.532	2.529	2.523
AO	84.39	90.39		87.39	87.39	87.39	87.39	87.39
AP	0.261	0.266		.262	.263	.262	.262	.263
AQ	0.053	0.073		.063	.063	.063	.063	.063
AR								
AS								
AT								
Accept/Reject								

Measured by: J.L / mrf 09/04/20
Date:

Audited by: SA 09/04/27
Date:

Prototype Approval:
Date:

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	

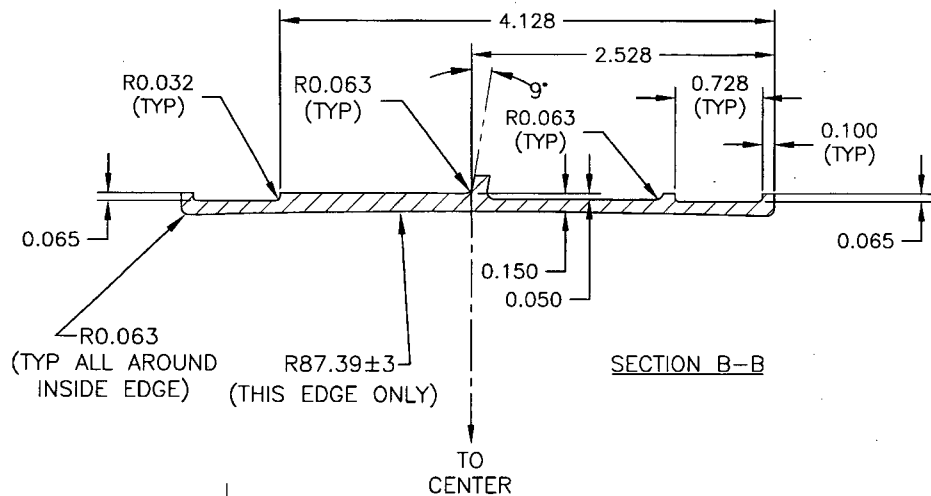
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

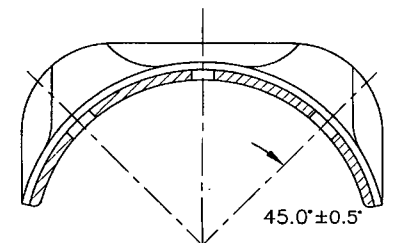
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

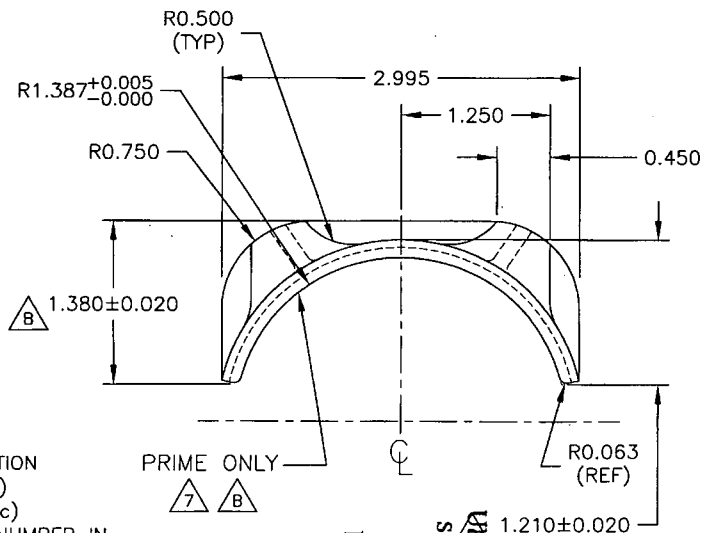
NOTE: Date & initial all entries



SECTION B-B



SECTION A-A
TOOLING HOLE DETAIL



PRIME ONLY



NO 47105

WORK ORDER

SUBJECT TO AMENDMENT

ENGINEERING

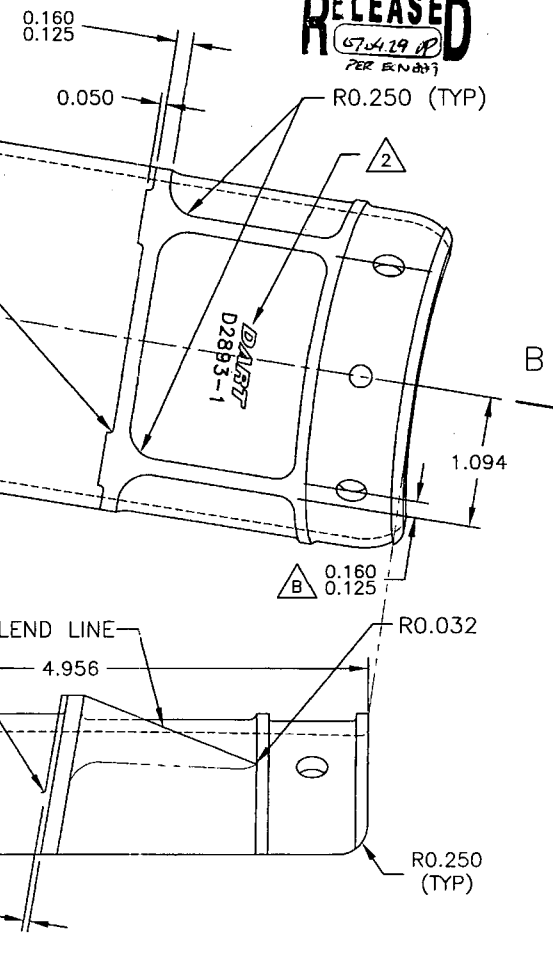
RETURN TO

SHOP COPY

UNCONTROLLED COPY

COPYRIGHT © 2001 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



B	07.03.16	UPDATE DIMS AS MFG., PRIME INSIDE
A	01.01.10	NEW ISSUE
DESIGN	90	DRAWN BY
CHECKED	#	APPROVED
DATE	07.03.16	TITLE
		DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
		DRAWING NO. D2893
		REV. B SHEET 1 OF 1
		SCALE 1:1

D2893-1

- 1) MATERIAL: 17-4 PH STAINLESS STEEL
HEAT TREAT TO H900 CONDITION
(900°F FOR 1 HR, AIR COOL)
MIN UTS = 170 KSI (38 HRc)
- 2) IDENTIFY WITH DART LOGO AND PART NUMBER IN
THIS AREA WITH 0.125 HIGH LETTERING 0.010-0.020 DEEP
- 3) BREAK ALL UNMARKED SHARP EDGES 0.010 TO 0.020
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES
- 7) FINISH: POWDER COAT WHITE (REF. 4.3.5.2) PER DART QSI 005 4.3
PRIME INSIDE SURFACE AS SHOWN PER DART QSI 005 4.2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries